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Road traffic safety — Good practices for implementing commuting safety management

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 241, *Road traffic safety management systems*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

0.1 General

The high proportion of road traffic crashes involving commuting, in many countries, is a global concern. Organizations should take proactive actions to improve safe commuting on roads. This principle is applicable to any organization to help it protect commuters including vulnerable road users (VRU).

Organizations can influence and inculcate road safety culture among their employees/students. They can also help to minimize commuting crashes through the provision of adequate and relevant policies, processes and training on road safety, use of safer modes of transport and vehicles, and planning of safe journeys. A systematic assessment should also be developed for assessing commuting crash prevention and initiatives to ensure their effectiveness.

There is also a need to emphasize extensive commuting safety management outreach programmes. Organizations should be fully committed in building a 'safety first' culture, which will consequently promote the prevention of commuting crashes.

It is recognized that implementation of this document could deliver societal, environmental and economic benefits to the organization in addition to the safety deliverables addressed therein.

This document gives guidelines for good practices that can be adopted by organizations around the world to manage their commuting safety management with a systematic and flexible approach while at the same time ensuring continual improvement to their practices and systems. It highlights measures and initiatives that can be taken to mitigate commuting risks. Organizations are encouraged to adopt as many good practices as possible in this document.

0.2 Concept of implementing good practices for commuting safety management

This document recognizes the use of an iterative Plan-Do-Check-Act (PDCA) approach to guide organizations toward achieving maximum commuting safety management results (see Figure 1).

Plan: Establish objectives and targets on commuting safety management in accordance with the organization's policy under top management's leadership and commitment and plan the processes necessary to achieve them.

Do: Ensure that sufficient capacity and resources are provided and implement the processes for commuting safety management as planned.

Check: Monitor and measure the process performance against objectives and targets and identify the opportunities for continual improvement.

Act: Take actions to continually improve process performance with the aim of reducing the incidence and risk of death and serious injuries in road crashes.

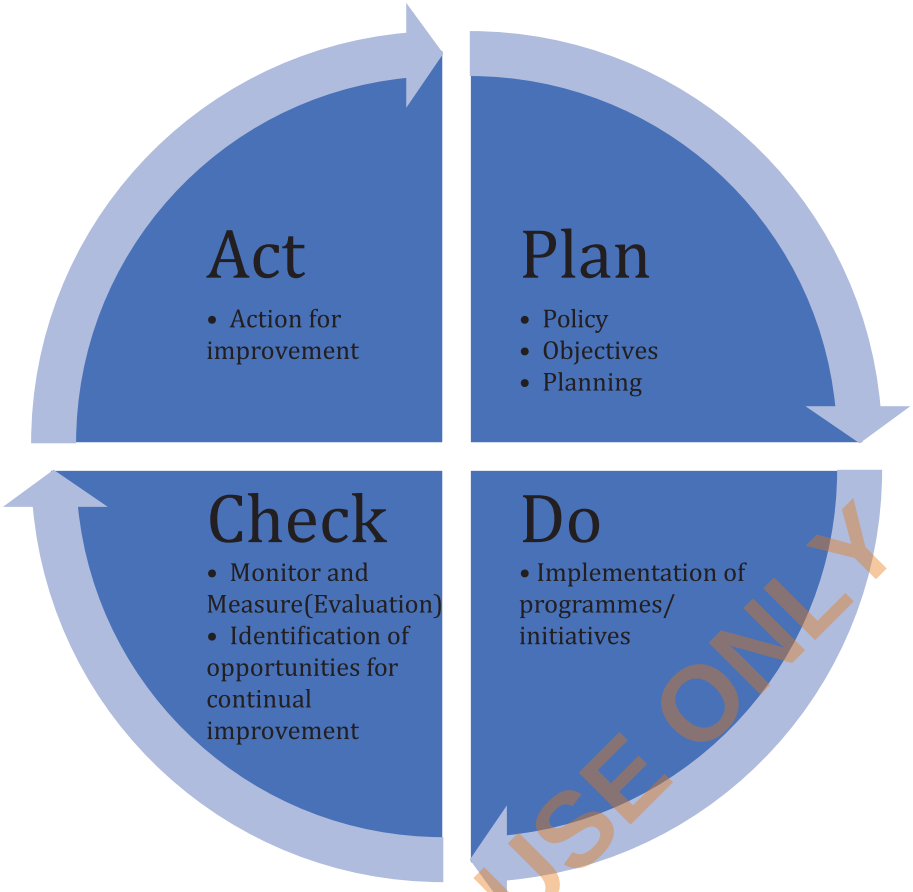

Figure 1 — PDCA approach to commuting safety management

0.3 Implementation of good practices

The implementation of good practices for commuting safety management and road safety can be categorized into different levels. They can be used to educate, to increase awareness and to consistently remind about the importance of always inculcating a 'safety first' culture (see Figure 2). Organizations may consider engineering approaches (for example, vehicle procurement and modal shift) to improve road safety performance.

The implementation of continual and sustainable road safety programmes and initiatives will positively affect the mindset and behaviours. These programmes and initiatives should be conducted periodically, scheduled, and assessed to examine their adequacy and effectiveness, while opportunities for continual improvement should also be identified.

The organization should establish a process(es) for the recognition, evaluation, implementation and control of new technological solutions that may impact upon road-traffic safety and commuting.

The evaluation should give due consideration to the potential benefits of such technology in respect of crash avoidance, and injury/damage minimization. It should also ensure that potential risks such as driver distraction or complacency are fully assessed.

The organization should communicate to the management team and its commuters the outcomes of assessments of the technological advancements on road and commuting safety and provide appropriate influence regarding the adoption of such technologies. The organization should take proactive measures to make adoption possible.

The management team and employees/students are encouraged to be continually exposed to the technological advancements on road and commuting safety, especially those proven scientifically, and the organization can influence the adoption of such in commuting activities.

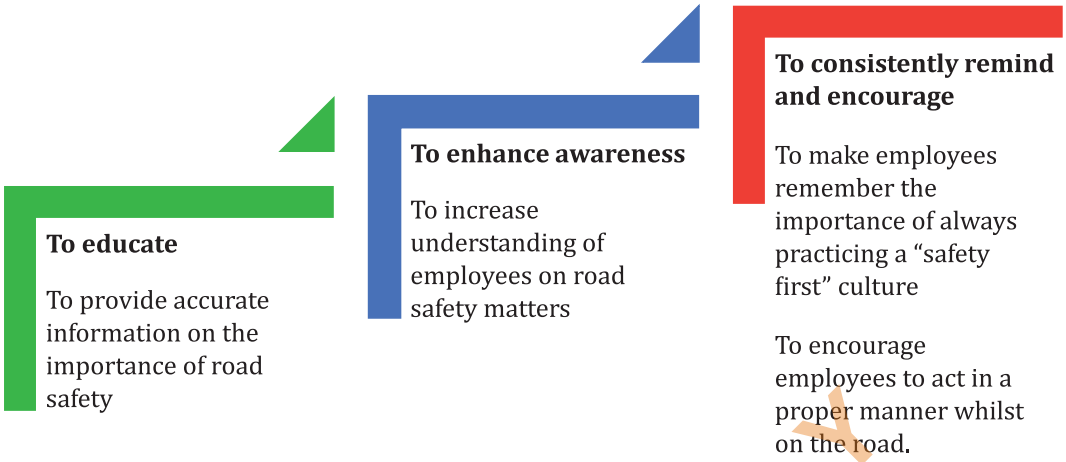

Figure 2 — Steps towards the safety-first culture

Road traffic safety — Good practices for implementing commuting safety management

1 Scope

This document provides guidelines for good practices that can be adopted by organizations for the implementation of commuting safety management. These practices are intended to reduce the number of fatalities and serious injuries, the severity of injuries, and further to minimize damage to property and economic loss due to road crashes.

This document is applicable to any organization to help it protect commuters including vulnerable road users (VRU) through the adoption of a proactive approach to manage commuting risks.

This document is also applicable to commercial transport organizations including fleet operators, as well as schools.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 39001, *Road traffic safety (RTS) management systems — Requirements with guidance for use*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 39001 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
commuting crash
crash in which a commuter is involved while travelling:

— between their home or temporary lodgings and place of work / study;

— on a journey made that is connected to their employment / study;

— between their place of work and the place where they eat during an authorised break

3.2
organization
person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its objectives, which includes school and other education establishment

4 Factors affecting commuting crashes

Three main factors that contribute to commuting crashes are road users (i.e. driver, rider, bicyclist, pedestrian and passenger), vehicles and road and environment.

Collect and analyse all information directly or indirectly related to road safety, brought to the attention of the organization by authorities, employees and users or customers, or actively gathered in enquiries or interviews, and cross-reference them against publications available locally or by the means of information technologies.

4.1 Road users

There are three elements that influence the physical and psychological conditions of road users:

a) Competency

Riding/driving knowledge and skill are essential for safe commuting.

Riders/drivers should have the ability to adopt a safe driving style and to take prompt and appropriate actions to avoid road crashes or minimize the impact of a road crash.

Riders/drivers should understand the limitation of their vehicles, within the context of the road facilities and the environment, to ensure appropriate riding/driving.

Pedestrians should keep to segregated pedestrian zones or sidewalk, behind safety barriers/fences or on designated footways whenever possible. Whilst walking along, or crossing, roads, they must always be fully alert and face the traffic. In the absence of a sidewalk, and unless there is any special circumstance or specific danger, pedestrians should be on the side of the road and facing the oncoming traffic.

b) Health and fitness

Health conditions, fatigue, sleepiness, influence of alcohol and drugs, visual problems (e.g. short- or long-sighted, astigmatism, glare), etc. are factors that can affect road safety.

Unstable state of emotion (especially anger), stress, lack of motivation, etc. are examples of psychological conditions that can cause commuting crashes. Road users need to be in a stable state of emotion before and throughout their journey.

c) Behaviour

The unsafe or inappropriate behaviour of road users such as the act of speeding, tailgating, weaving and red-light running are major causes of road crashes.

The focus of road users can be distracted if they are eating, drinking, smoking, texting, answering or making calls, etc. while on the road.

Organizational factors (such as pressure for staff to be 'reachable' during their commute) can negatively influence driver behaviour.

Passengers of any on-road public transport need to ensure that their behaviour and conduct is safe at all times of the journey, particularly when:

i. Waiting at designated public transport stops (to minimize disruption to other road users and traffic in the road environment).

ii. Alighting and disembarking from public transport at the designated public transport stops.

iii. Obeying traffic rules and regulations on the way (either as cyclist or pedestrian or other) to the public transport stops.

iv. Before alighting or after disembarking from the public transport, cross at designated cross walks or make use of the provided channelling to cross at safe places.

4.2 Vehicles

Vehicle safety devices, suitability and condition are three factors that can contribute to commuting crashes, and they are described in detail below:

a) Safety features and devices, including:

- vehicle engineering, design and structure;
- passive and active safety devices (e.g. Electronic Stability Control (ESC), Anti-lock Braking System (ABS), Side Impact Protection or seatbelt reminder system); and
- materials used for the vehicle.

b) Suitability

The selection of vehicle should fit and be compatible with its purpose (e.g. a four-wheel drive should be used in an agricultural place or snow-covered areas of work).

NOTE 1 Please note the possible existence of local legislation regarding the modification of vehicles (e.g. for persons with disabilities).

c) Condition

Comprehensive periodical vehicle maintenance is critical to ensure that the vehicle is functioning correctly and has a long-life expectancy.

NOTE 2 Please note the possible existence of local legislation regarding vehicle roadworthiness.

4.3 Road and environment

In addition to road users and vehicle factors, road and environment conditions are also considered as contributing factors to crashes. Hence, it is important for road users to be aware of environmental factors such as road and topographical conditions and road type (e.g. single-or dual carriageway, etc.) throughout the entire commuting route.

The potential hazards and risks along the route should be identified so that appropriate actions and extra care can be taken when commuting. Attention should be given to:

a) Road conditions:

- road surface (e.g. potholes, slippery, greasy);
- geometric features (e.g. sag curves, crest curves, lane width); and
- road construction work.

b) Road furniture along the route (e.g. type of guardrail used, road signage, road markings).

c) Road environment:

- topographical condition (e.g., flat, undulating, hilly, mountainous);
- signage (e.g. inadequate, confusing or blocked road signages);
- lighting;
- haze;
- thick fog;
- weather condition (e.g. snow, ice, heavy rain, flood, landslide, crosswind);
- animal crossing;

— illegally parked vehicles and potential impact on sightlines; and

— any significant change to the road environment and condition affecting safety, such as fallen objects, landslide, etc.

d) Traffic volume and condition (e.g. during peak hours, festive seasons).

5 Roles and responsibility

5.1 Organization

The organization's leadership and commitment are crucial success factors of commuting safety management programmes and initiatives in the workplace. This is directly related to the knowledge of the health and safety of their employees/students, their attitude, vision and mission, and their willingness to allocate resources to make an impact on commuting safety.

The organization needs to understand the importance of commuting safety management which is one of their main responsibilities. Top management should be knowledgeable in the total concept of occupational health and safety and able to monitor related activities that are performed within the organization including the assessment of its achievement and effectiveness.

The organization also needs to identify relevant road authorities that are responsible for roads connected to their premise so that they can report any damage to the road or unsafe conditions.

5.2 Employees/students

The responsibility of employees/students in commuting safety management is as important as that of the employers/schools. Employees/students should provide adequate support, cooperation and feedback in all programmes and initiatives to ensure success thereof.

Employees/students are responsible for taking reasonable care for the health and safety of themselves and other persons who may be affected by their actions.

5.3 Government agencies and interested parties

Road safety is a shared responsibility among interested parties. Proactive roles by the government agencies, private sectors and non-profit organizations significantly influence the outcome and the sustainability of the commuting safety management programmes.

The government and other relevant agencies could support and collaborate with organizations to reduce commuting crashes. The involvement and cooperation of these agencies may further encourage organizations to develop programmes and initiatives that are necessary to ensure the health and safety of employees/students while commuting.

The government and other relevant agencies could also take proactive actions and provide prompt response to concerns raised by organizations or the public concerning road safety.

The government and interested parties should continually disseminate information regarding road safety campaign and awareness through media communication including social media. A continuous and sustainable road safety promotion will positively influence the mindset and behaviour of the public.

However, it is important that the population at a very early age starts inculcating the road safety culture, for example kindergarten children should be made aware the dangers of the road.

6 Good practices recommendations

6.1 General

Basic good practices are generic good practices that are applicable to most organizations and situations regardless of the type and nature of their service or scope of activities. Basic good practices are highly recommended for effective implementation of commuting safety management. Some of these practices do not require substantial investment or resources but have been proven to get buy-in and support.

Further good practices as explained in 6.2 are additional initiatives that may be implemented based on the organization's needs and resources to complement the basic good practices in 6.1. The implementation of these additional initiatives, which can be seen as best possible practices, provide value added benefits to organizations.

6.1.1 Commitment to incorporate commuting safety management in RTS Policy

Commuting safety is of such importance to warrant the commitment and support of top management.

The commuting safety management should be incorporated in the RTS policy. It should be communicated and made readily accessible to all interested parties. In addition, the RTS policy should also be constantly reviewed and updated in-line with any relevant developments.

EXAMPLE Relevant developments could be changes in work/school environment or regulations.

The top management should:

— provide leadership;

— appoint a road safety representative;

— establish a clear, comprehensive and practical set of road safety objectives and targets, including reporting to interested parties; and

— allocate resources (staff and financial support).

6.1.2 Commuting incident report and investigation including near miss

A commuting incident report and investigation should consist of a notification, an internal investigation and a report. The employee/student should notify the organization of any crashes and near misses as soon as possible after the incident.

All cases should be internally investigated by a dedicated and knowledgeable team to determine the causes, which should be used as lessons learnt to prevent similar incidents in future.

EXAMPLE 1 The dedicated team could be the health and safety committee.

The commuting incident report should contain the following information:

— background to the commuting incident;

— data on the incident;

— possible cause analysis; and

— countermeasures (action plan or guidance to prevent reoccurrence).

EXAMPLE 2 Some examples of data on the crash are: condition of the road users (before and after the incident), vehicles involved and the road environment.

Recommendations for preventing similar crashes and reminders on road safety should be disseminated to all as part of awareness and lesson learnt.

6.1.3 Journey and risk management

a) **Route hazard mapping**

Commuters should conduct route hazard mapping for their commuting routes to identify hazards and risk control measures as follows:

— consider the safest route to commute to work (including identification of any shortcuts that could lead to a crash);

— declare any hazard or problems along the commuting route;

— propose preventive actions; and

— periodically update the route hazard map when there are changes to the route.

EXAMPLE 1 Changes to the route could be a move to new house or new road development.

Employers/schools should guide and supervise their employees/students on how to conduct route hazard mapping.

NOTE See Annex A for an example of a template for route hazard mapping.

Organizations should provide information on locations prone to crashes near their premises.

EXAMPLE 2 Suitable locations for the postings could be in front of security, or at the main entrance to each building.

b) **Time management**

Time management principles should be applied as follows:

Consider the following when choosing the route and time to travel:

— peak hours and traffic congestion;

— weather condition (e.g. snow, ice, rain, extreme temperatures);

— road and topographical condition;

— type of road (e.g. single-or dual carriageway, etc.);

— safest mode of transport;

— time of the day associated with sleepiness; and

— need of adequate rest time especially after long hours of work.

Commuting schedules should be adjusted and adapted to ensure compliance with speed limits and working hours.

6.1.4 Family safety reminder

Organizations should introduce a family safety reminder, which is one of the 'hearts and minds' approaches. This reminder should be displayed at workstations or carried at all times.

NOTE The application of 'hearts and minds' approach is used as a way to improve the culture of safety in organizations. The purpose of this approach is to change peoples' attitudes and habits on safety so that they are extra cautious. It provides practical techniques to stop unsafe behaviour on road, as the thought of family will encourage safer driving.

Examples of family safety reminder are a family safety reminder card, a short video on messages from family and a key chain.

The family safety reminder card should contain road safety reminder, message and/or pledge, and should further contain:

— a photo of the family;

— information on blood type; and

— emergency contact number (e.g. next of kin, or officer in-charge of the organization).

NOTE See Annex B for examples of the family safety reminder card (Figure B.1) and road safety pledge (Figure B.2).

6.1.5 Vehicle inspection

Organizations should provide programmes to facilitate regular vehicle inspection activities.

Employees/students should have a proactive attitude to ensure that their vehicles are in good condition and functioning well. Vehicle inspections should be conducted to prevent crashes and related losses.

a) **Daily vehicle inspection**

Daily inspection should be undertaken on vehicles before and after commuting to work. This will enable appropriate action or repairs be done to prevent mechanical failure of the vehicle. Items that need to be inspected include tyre, brake, lighting, etc.

NOTE See Annex C for additional information on periodic vehicle inspection.

b) **Periodic vehicle inspection**

Organizations should implement a periodic vehicle inspection programme to ensure that vehicles are 'fit for the task' and are insured, serviced and well maintained.

During vehicle inspections, a check should be made of the validity of the driver's license.

Basic vehicle inspection activity should be conducted by the vehicle owner, which may be done together with the health and safety committee based on a standard checklist which should include:

— wiper inspection;

— brake lights;

— signal lights;

— tyre inspection; and

— hazard lights.

Organizations should provide appropriate and sufficient training before conducting the vehicle inspection and maintenance programme. Records on vehicle inspection, maintenance and repair should be maintained. Random surprise inspections are recommended to be carried out from time to time.

NOTE See Annex C for examples of motorcar or van checklist and fault report (Table C.1) and motorcycle or bicycle checklist and fault report (Table C.2).

6.1.6 Consequence management

A reward and demerit system should be introduced within the organization to inculcate safety-conscious behaviour as it could change attitudes, improve habits, and increase skills to build a 'safety first' culture. Care should be taken to evaluate all outcomes.

a) **Reward**

The reward system should include incentives. They should be in various forms (not necessarily monetary), such as recognition or special privileges, depending on the organization's creativity and initiatives.

EXAMPLE The recognition for 'best employees as safety icon' is given to those who have shown good safety performance in their work (free from incidents and crashes, minimum number of medical leaves, good discipline, punctual, etc.). As an incentive, they could be given a certificate or prizes. In addition, their photos can be displayed at the 'wall of fame' in order to motivate others.

NOTE Individuals will be more enthusiastic and motivated if they are valued and appreciated by their organization. A reward system is one of the means whereby organizations can demonstrate appreciation.

b) **Discipline**

Failure to abide by the rules should be seen to be addressed through appropriate means.

The actions taken should be commensurate with the identified non-compliance. It should not be intended to be punitive but to provide a lesson and instruction to be more cautious and responsible on the road.

EXAMPLE Performance evaluation of the employees will be conducted if they do not comply with the rules and regulations pertaining to road safety specified by the management such as exceeding maximum speed limit within the premise of the organization, not wearing appropriate personal protective equipment (PPE) (e.g. helmets, safety vest, etc.) or using hand phone while driving/riding.

6.1.7 Health and fitness to ride/drive

A programme for monitoring health and fitness should be established in order to safeguard the well-being of all parties.

Organizations should periodically arrange health and fitness programmes. They should provide guidance on maintaining health and fitness including physical alertness through the following:

a) Encouragement to undergo regular medical check-up through:

- organization medical benefit;
- in-house medical screening programme; or
- government health screening programme; or
- any other health screening scheme.

b) Conduct alcohol and drug screening tests using a breathalyser or urine test.

c) Organise physical fitness programmes (e.g. aerobics, walkathon, etc.).

d) Provide tips on maintaining health and alertness especially when driving (e.g. a manual on physical exercise when stopping for rest).

e) Provide information and educate on methods to manage stress, tiredness and fatigue resulting from driving and work pressure.

6.1.8 Periodic campaign and awareness on road safety

Road safety campaigns should be run to educate, increase awareness and remind about the importance of constantly practicing a 'safety first' culture.

The health and safety committee should plan and organise an annual programme related to the commuting crash prevention and road safety. This programme may include but is not limited to the following activities:

a) road safety exhibition;

b) dissemination of information and instructions regarding safety through bunting, posters, banners, notice boards or billboards;

c) distribution of flyers, pamphlets, badges, stickers, keychains or bulletins;

d) road safety videos;

e) competitions, quizzes;

f) safety slogan and pledge on road safety;

g) safety week/month with specific subject/focus on road safety;

h) campaign prior to festive season or shutdown operation for long holidays;

i) safety assembly such as a morning briefing or;

j) orientation programme which includes activities and sharing of information on commuting crash prevention and road safety;

k) road safety talks with invited speakers from road safety charities;

l) communication channels or other tools such as a suggestion box for complaints and ideas for improving commuting safety management;

m) road safety campaign/advocacy programme (e.g. wearing appropriate PPE for motorcyclist, wearing safety seat belt, etc.); and

n) creation of a traffic ground, where school children would be exposed to best safety practices.

The detailed planning and schedules of the campaign and awareness programmes should be properly laid out. The roles and responsibilities of the person in charge (PIC) of the programme should be defined and communicated. Dissemination of information via electronic or printed media should be visually attractive and appealing.

All such campaigns should be based on good quality evidence and current behaviour change/ motivational theory.

6.1.9 Training

Training on road safety should be given periodically and continually to improve skills. The rider and driver's skills, training, experience and attitudes are fundamental to safe commuting. Note however that training cannot be assumed to be effective, and any interventions should be based on evidence. The training should include:

a) **Safe riding/driving**

The safe riding/driving training should be provided to all employees who commute to work, regardless of whether it is their own vehicle or organization owned vehicle.

The syllabus for safe riding/driving training should:

— focus on hazard recognition and risk assessment as well as vehicle control skills;

— include the importance of understanding the vulnerability of motorcyclists and to be alert and cautious of them when driving, especially if the motorcyclist is at blind spots;

— educate the participants regarding the importance of proper fastening of safety helmet and seatbelt, and usage of protective clothing;

EXAMPLE Some examples of protective clothing are: safety vest, safety shoes, gloves, etc.

— emphasize and encourage reverse parking to avoid collision with pedestrians or other road users;

— include stress and anger management; and

— include understanding of road signages.

See Table D.1 for a recommended list of topics to be included within the syllabus of a safe riding and driving training course. These may be selected, as appropriate, to address the national, and other, circumstances applicable to the organization.

The safe riding training should include an evaluated riding session.

During the commentary riding session, the trainer should:

— observe the participant practicing the safe riding skill, which he has learnt, on the route that he uses for commuting to and from work; and

— alert and re-brief the participant if he made any mistakes and instruct him to ride again until the ride is perfect.

b) **Train the trainer (TTT) programme**

Trainers should be selected from within the organization and given the necessary training to ensure continuity of training programmes and to retain expertise within the organization.

Trainers should be selected based on their competence and qualifications to ensure the quality and the effectiveness of the training.

6.1.10 Engagement with government and interested parties

Organizations should look into any opportunities for engagement or collaboration with government and stakeholders in managing commuting safety.

Private sectors, NGOs, and society at large play an important role in promoting road safety in collaboration with relevant authorities (e.g. national road safety council, road safety lead agency, transport and road authorities, city council and local authorities).

These engagements or collaborations may include but are not limited to the following:

a) In designing new infrastructure, responsible authorities should:

— ensure that new roads are built safe without possible hazards;

— identify road hierarchy according to the functions of the roads; and

— create safe, attractive and convenient routes for pedestrians or cyclists and safer provisions for crossing roads.

b) Establish an integrated and efficient complaints management system with relevant authorities.

c) Organizations could also benefit from 'linking' with other agencies' systems.

NOTE This will enable the display of real-time information about traffic flow, crashes, road works, weather condition, etc. on the intranet or screens at the workplace, which could assist journey planning.

6.1.11 Crash response plan

Organizations should identify and disseminate information on those emergency services that are available, in case of commuting crash. These should include but are not limited to:

— emergency phone number;

— panel clinic/hospital care;

— ambulance services; and

— organization's representative for any emergency.

6.1.12 Commuting incident management review

The analysis of and reporting on commuting incidents should be incorporated in the meeting agenda of the health and safety committee or equivalent of the organization.

The assessment and actions proposed for the continual improvement of commuting safety management should also be discussed during the meeting of the health and safety committee or equivalent to ensure its effectiveness.

6.2 Further good practices

6.2.1 Organizational commuting profile

An organizational commuting profile for each employee should be established for the purpose of record keeping, risk management and monitoring.

The organizational commuting profile should include but is not limited to the following:

— mode of transportation (e.g. car, motorcycle, bus, etc.);

— valid license and vehicle registration;

— driving/riding experience;

— record of driving/riding under the influence of alcohol/drugs;

— working hours;

— distance travelled to workplace;

— crashes or near misses record;

— medical history; and

— number of driving convictions received.

6.2.2 Incentives for participation in commuting safety programmes and initiatives

Incentives should be given to assist and encourage participation in the commuting safety management programmes.

The incentives that should be considered include, but are not limited to:

a) Provision of discounted or free safety equipment, for example hi-vis, helmets, dash cams, etc.

b) Financial support and benefits for choosing a bicycle for commuting.

c) Loan to purchase vehicle or for major maintenance:

Organizations should provide loans to their commuters who wish to purchase a vehicle to facilitate safer commuting or need to do major maintenance on their vehicle.

d) Service centre (internal or collaboration with external workshop):

Organizations should provide a service centre within their premises to repair or maintain vehicles at a cheaper price.

Organizations may also collaborate with external workshops to repair or maintain vehicles at a discounted price.

NOTE With this arrangement, organizations are able to ensure the spare parts provided are genuine and sold at a reasonable price.

e) Cafeteria service:

In order to reduce potential commuting crashes during breaks, a cafeteria should be provided on site. This will reduce unnecessary journeys and help to reduce commuting crashes.

f) Locker facility:

Lockers should be provided.

NOTE Individuals can keep their helmet or safety vest in their locker.

g) Incentives should be provided for carpooling or use of public transport.

6.2.3 Additional benefits

Based on the needs of the organization, the following additional benefits should be provided.

a) Shuttle services to workplace:

Organizations may consider providing their own alternative transportation or shuttle services, for example within their complex, compound or branches, or between train stations and the place of work. Shared shuttle buses are safer than individual vehicles as they reduce the exposure to commuting crash.

For manufacturing sectors, transportation should be provided especially for the operators.

b) Housing facility:

Organizations should also provide accommodation such as a hostel or quarters that are close to the workplace. This effort will reduce risk and exposure to potential commuting crashes.

c) Safer mode of transportation for outstation work:

The choice to use public transport should be given as an option to commute for outstation work. Rail and air could be one of the options as they are among the safest modes of transport.

6.2.4 Alternative working arrangement

Organizations should consider implementing flexible working hours and working from home, if appropriate, as these arrangements could indirectly reduce the potential of commuting crashes.

a) Flexible working hours:

Flexible working hours should be allowed as they provide a means to plan safer commuting journeys.

EXAMPLE An employee can avoid peak hours, or they can carpool with family members or colleagues. However, flexible working hours might not be possible for those working in certain services and manufacturing sectors.

b) 'Work from home' arrangement:

Organizations may also consider implementing a 'work from home' arrangement or at workplaces closer to home.

EXAMPLE Employees are only required to come to the office one or two days a week. This subsequently reduces the need for daily commuting to work. Organizations that have this working arrangement may monitor its effectiveness and the productivity.

6.2.5 Rest facilities

Organizations should provide conducive and adequate rest and refreshment facilities on-site. The use of such facilities should be encouraged to ensure sufficient rest before journeys.

Napping facilities, shower room or entertainment, etc., should be made available for those working on shifts.

6.2.6 Managing work shifts

The schedule of individuals working shifts should be managed efficiently.

NOTE Improper management of shift schedules can lead to fatigue and reduced alertness, which can affect work, safety and riding/driving performance.

6.2.7 Community-based programmes (CBP) and corporate social responsibility (CSR)

Organizations should conduct road safety programmes which involve participation of its commuters and nearby communities.

EXAMPLE 1 Community-based programmes such as safe riding advocacy and road hazard mapping near the workplace are good examples.

EXAMPLE 2 CSR activities organized by organizations such as traffic warden programme or road safety programme at schools or children theme parks, etc.

6.2.8 Work assignment after commuting crashes

If an employee has been involved in a commuting crash some adjustment to their work assignment should be made in view of their health condition.

EXAMPLE Giving modified duties to an employee who has been involved in a commuting crash based on their injuries and advice from an authorised medical practitioner.

Adequate accessible facilities should be provided where required (e.g. ramp, handrails, lifts, etc.).

Annex A
(informative)

Example of road hazard mapping

Table A.1 — Template of a journey management plan with road hazard mapping

A Company A member of A Larger Group	***Road Traffic Safety Management System*** *Journey Management Plan / Route Hazard Assessment*	*Ref No.:* Example *Rev No.:* 0 *Date:* dd/mm/yyyy Page: 1 of 5

Assessment Date	*dd/mm/yyyy*	**Authorised Route**	*Route designation*
Loading Point/Source	*Name of departure point*	**Offloading Point/Destination**	*Name of destination*
Average Traffic Flow	*Medium*	**YTD accidents on the Route**	*nn*
Total Journey Distance	*xx.x Miles/Km*	**Review Date**	*dd/mm/yyyy*

Risk Assessment Matrix

Severity / Consequence
4 = Potential death or fatalities, Major damage, Major effect
3 = Major injury or health effects, Local damage, Localised effect
2 = Minor injury or health effects, Minor damage, Minor effect
1 = Slight injury or health effects, Slight damage, Slight effect

Probability / Frequency
D = Has happened more than once per year at the Location
C = Has happened at the Location or more than once per year in the company
B = Has happened in the company or more that once per year in the transport industry
A = Heard of in the industry

Severity / Consequence	**Probability/Frequency**			
	A	**B**	**C**	**D**
1	1	2	2	7
2	3	4	8	11
3	6	9	13	15
4	10	12	14	16

Table A.1 *(continued)*

A Company A member of A Larger Group	***Road Traffic Safety Management System*** *Journey Management Plan / Route Hazard Assessment*	*Ref No.:* Example *Rev No.:* 0 *Date:* dd/mm/yyyy Page: 2 of 5

Route Factors Questionnaire and Checklist *(Questions may be adapted to suit local requirements)*

Factor	Question	Answer	Comments
Road Condition	Is the road hard surfaced or unbound?		
	Are the road markings visible?		
	How well is it maintained (is it suitable for the vehicle you use)?		
Road Shoulder	Are safety guards/railings installed where appropriate?		
Journey Timing and Duration	Is the route unsafe at particular hours of the day (e.g. night time or during peak hours)?		
	Is the route unsafe at particular days of the week (e.g. weekdays or during weekends)?		
Visibility	Are there enough and suitable road signage along the road (e.g. speed limit signs)?		
	Are hazard warning signs/ road signage used appropriately?		
	Can intersecting roads and rail crossings be identified within adequate reaction time?		
	Is there adequate street lighting?		
Security	Is the route a hijacking hot spot?		
Traffic Density	Is it light, medium or heavy?		
	Is it mostly used by light vehicles or trucks or both?		
Animal Control	Is wildlife or livestock likely to wander onto the road?		
Population Density	Does the route go past a school, or other places, where people congregate?		
	Is pedestrian traffic controlled?		

Table A.1 *(continued)*

A Company A member of A Larger Group	***Road Traffic Safety Management System*** *Journey Management Plan / Route Hazard Assessment*	*Ref No.:* Example *Rev No.:* 0 *Date:* dd/mm/yyyy Page: 3 of 5

Risk Assessment Matrix *(illustrative example)*

Hazards Identified	Risk Assessed	Distance (Km/Miles)	Risk Rating	Person(s) affected	Controls/Recommendations	Responsible Person(s)
Weighbridge to Stockpile and back	Weighbridge is very narrow, vehicle damage due to bumper bashing and collision with weighbridge railings	0 - 1	12	Truck operators	Truck operators to drive very slowly, keep safe following distance of 5 meters	Truck operators
Stop at intersection, right turn (Dual Carriageway)	Collisions with other vehicles	1,1	12	Truck operators; other motorists; pedestrians	Truck operators to drive slowly and make complete stop, observe all other vehicles before proceeding.	Truck operators
Intersection,left turnto City (Single Carriageway)	Collisions with other vehicles	1,3	9	Truck operators; other motorists; pedestrians	Truck operators to drive slowly and observe all other vehicles while proceeding.	Truck operators
Driving through City	Collision with other vehicles as well as pedestrians	For 1,5 km	12	Truck operators; other motorists; pedestrians	Truck operators to slow down, be alert to pedestrians as well as other vehicles and proceed with caution	Truck operators
Intersection from left (City school)	Trucks colliding with other vehicles	2,3	12	Truck operators	Truck operators to slow down and observe all other vehicles while proceeding.	Truck operators
Road surface bumpy	Operators can lose control, if speeding	2,7	9	Truck Operators	Reduce speed and be aware of oncoming traffic	Truck Operators

Table A.1 *(continued)*

A Company	***Road Traffic Safety Management System***	*Ref No.:* Example
		Rev No.: 0
A member of A Larger Group	*Journey Management Plan / Route Hazard Assessment*	*Date:* dd/mm/yyyy
		Page: 4 of 5

Hazards Identified	Risk Assessed	Distance (Km/Miles)	Risk Rating	Person(s) affected	Controls/Recommendations	Responsible Person(s)
Stop at intersection to A123, left turn into A124	Trucks colliding with other vehicle	3,2	12	Truck operators	Truck operators to slow down and come to a complete stop, observe all other vehicles before proceeding.	Truck operators
Potholes	Operators can lose control, if speeding	4,8	9	Truck Operators	Reduce speed and be aware of oncoming traffic	Truck Operators
Stop at A125 intersection, left turn	Collisions with pedestrians and other vehicles	5,4	12	Truck operators; other motorists; pedestrians	Truck operators to drive slowly, make complete stop, observe all other vehicles and pedestrians before proceeding.	Truck operators
Housing area	Pedestrians might cross the road	6,8	12	Truck operators; other motorists; pedestrians	Truck operators to be alert to pedestrians next to or attempting to cross the road	Truck operators
Intersection to factory (Right)	Trucks colliding with other vehicles	6	9	Truck operators	Truck operators to slow down and observe all other vehicles before proceeding.	Truck operators
Intersection left turn to Town	High accident risk involving public vehicles as well as trucks	7,1	12	Truck operators; other motorists	Truck operators to comply with all road and safety rules as they have to turn across a busy road.	Truck operators
Housing area	Pedestrians might cross the road	7,2	12	Truck operators; pedestrians	Truck operators to be alert to pedestrians next to or attempting to cross the road	Truck operators

Table A.1 *(continued)*

A Company A member of A Larger Group	***Road Traffic Safety Management System*** *Journey Management Plan / Route Hazard Assessment*	*Ref No.:* Example *Rev No.:* 0 *Date:* dd/mm/yyyy Page: 5 of 5

Hazards Identified	Risk Assessed	Distance	Risk Rating	Person(s) affected	Controls/Recommendations	Responsible Person(s)
Speed hump	Operators can lose control if speeding	7,8	9	Truck Operators	Reduce speed and be aware of oncoming traffic	Truck Operators
Stop at intersection, right turn to truck sheeting area	Trucks colliding with other vehicles	7,9	12	Truck operators; other motorists	Truck operators to comply with all road and safety rules as they have to turn across a busy road.	Truck operators
Truck sheeting area	Trucks colliding with other trucks as well as workers	8,1	12	Truck operators as well as workers	Operators to keep safe following distance.	Truck operators
Stop at security gate	Trucks colliding with other vehicles	8,2	9	Truck operators; other motorists	Truck operators to comply with all road and safety rules, keep safe following distance.	Truck operators
Weighbridge to Stockpile and back	Weighbridge is very narrow, vehicle damage due to bumper bashing and collision with weighbridge railings	8,1 – 9,1	12	Truck operators	Truck operators to drive very slowly, keep safe following distance of 5 meters	Truck operators

Annex B
(informative)

Examples of the family safety reminder card and road safety pledge

B.1 Examples of family safety reminder card

Figure B.1 — Road safety corner with examples of family safety reminder cards in a typical organization

Figure B.2 — Typical family safety reminder card

B.2 Recommended content of a road safety pledge

The purpose of a road safety pledge is to focus drivers' attitudes and habits to stop unsafe behaviour on roads and to encourage them to drive safely and exercise extra caution whilst driving.

The example below includes clauses that an ideal road pledge would contain:

As an organization employee, i hereby pledge my commitment to road safety within the company.

I will endeavour to make a difference within the company, our community and on the roads of the country by embracing the following:

I will always drive safely, showing consideration and respect for all drivers and pedestrians on our roads.

I understand the important role our drivers play in our company, and will not put undue pressure on them to achieve unrealistic delivery times.

I will obey all traffic regulations whilst driving.

I will wear my seatbelts and ensure that my passengers wear theirs.

I will comply with speed limits.

I will not drive whilst talking on the cell phone.

I will not drive whilst under the influence of drink or drugs.

I will not drive when sleepy or tired.

I will ensure that my vehicle is safe and roadworthy.

I will adopt a positive attitude towards road safety, not only at work, but within my family and community.

I will endeavour to constantly improve my driving standards.

Annex C
(informative)

Examples of periodic vehicle inspection checklist and record

C.1 Example of motorcar or van checklist and fault report

Table C.1 — Template of a motor car or van checklist and fault report

Driver's vehicle checklist and fault report

Checks to be conducted before use of the vehicle

Vehicle registration no: _____

Odometer reading: _____

Vehicle make/type: _____

Driver: _____

Date: _____

NB: If any items are deemed critical, the driver must not drive the vehicle until the fault has been rectified.

MARKING KEY	
✓	Satisfactory/ available
–	Defective/ missing
X	Critical fault
N/A	Not applicable

EXTERNAL VEHICLE CONDITION		
Item	**Mark**	**Comments**
Condition of vehicle bodywork, windscreen, windows, lights		
Condition of windscreen wiper blades		
Cleanness of windscreen, windows, mirrors, lights, number plate		
Security of load, trailer, roof rack		
Condition of tyres, tyre pressure, tyre wear		
Availability of spare wheel, jack and tools		
Under vehicle inspection: leaks, loose parts, foreign material		

FLUIDS		
Item	**Mark**	**Comment**
Engine oil level		
Coolant level		
Windscreen wash level		
Brake/clutch fluid		
Power steering fluid		
Condition of battery, acid level, fixation and connections		
Oil or waste leaks		
VEHICLE INTERIOR AND EQUIPMENT		
Item	**Mark**	**Comment**
Condition and function of seat belts		
Head restraint adjustment		
Mirror adjustment		
Tax disk		
First aid kit		
Fire extinguisher		
Torch		
Warning triangle		
Vehicle handbook		
FUNCTIONAL CHECKS BEFORE STARTING THE JOURNEY		
Item	**Mark**	**Comment**
Warning lights in instrument panel working		
All lights		
Horn		
Washers and wipers		
Brake		
Fuel		
FUNCTIONAL CHECKS DURING THE JOURNEY		
Item	**Mark**	**Comment**
Warning lights in instrument panel off		
Abnormal noise		
Abnormal vibration		
Abnormal smell		

All the items above have been checked and any defects and omissions reported.

Driver's signature: _____

Checker's signature: _____

C.2 Example of motorcycle or bicycle checklist and fault report

Table C.2 — Template of a motorcycle or bicycle checklist and fault report

Rider's checklist and fault report

Checks to be conducted before use of the bike

NB: If any items are deemed critical, the rider must not ride the bike until the fault has been rectified.

MARKING KEY	
✓	Satisfactory/ available
–	Defective/ missing
X	Critical fault
N/A	Not applicable

VISIBLE CONDITION		
Item	**Mark**	**Comments**
Condition of framework of bike and wheels		
Check condition/operation of brakes		
Condition/operation of gears		
Cleanness of reflectors		
Lights clean and in working order		
Condition of tyres, tyre pressure, tyre wear		
Chain is properly adjusted and oiled		
Audible warning bell/horn working		
Saddle, handlebars, pedals are adjusted to the correct height		

ADDITIONAL FOR MOTORBIKES		
Item	**Mark**	**Comments**
Clean number plates/registration marks		
Check for signs of oil, fuel, water leaks		
Check operation of throttle, brake, clutch levers and pedals		
Check electrics condition and function		
Check mirrors cleanliness and position		

All the items above have been checked and any defects and omissions reported.

Rider's signature: _____

Checker's signature: _____

Annex D
(informative)

Sample safe driver training content

Table D.1 — Recommended list of safe driver training content

SAMPLE SAFE DRIVER TRAINING CONTENT	
1. The law - National road traffic act	41. Lane discipline
2. Reckless or negligent driving	42. Weather conditions
3. Inconsiderate driving	— Poor visibility; wet weather; cross winds; snow and ice
4. Driving under the influence of alcohol/drugs	43. Curves in the road
5. Speed limits	44. Town driving
6. Load securement	45. Night driving
7. Safe passing practices	46. Road surfaces
8. Safety belts	47. Other hazards
9. Communication devices	48. Animals on the road
10. Pre-trip inspections	49. 10 commandments of motoring
11. Vehicle dynamics	50. Driver fatigue
12. Driver attitude	51. The effects of fatigue
13. Aggressive driving	52. What causes fatigue?
14. Driver awareness	— Body clock factors
15. Vision and perception	— Sleep factors
16. Safe driving essentials	— Work factors
17. Use of horns and headlights	53. Ways to reduce fatigue
18. Use of signals	54. Check list for keeping alert
19. Right-of-way	55. Check list for fatigue warning signs
20. Driving hours	56. Health factors
21. Road surfaces	57. Your general health
22. Steering	58. Tips to stay healthy
23. Acceleration	59. Alcohol, drugs and stimulants
24. Speed and vision	60. Diet and exercise
25. Thinking (reaction) time and stopping distance	61. Dietary causes of fatigue
26. Braking	62. Loads
27. Following distance	63. Braking
28. The need for safe driving	64. Driving emergencies
29. Driver skills	65. Breakdown hints
30. The system of vehicle control	66. Warning triangles
31. Intersections	67. Runaway trucks
32. Abnormal conditions	68. Braking
33. Keeping a safe distance	69. Skidding – Jack-knifing
34. Parking procedures	70. Blowouts
35. Reversing	71. Personal protective equipment (P.P.E.)
36. Cornering	72. Storage of keys
37. Left and right turn	73. National health and safety legislation
38. Vehicle clearance	— General duties of the employer
39. Multiple-lane highway driving	— General duties of the employee
40. Road shoulder driving	74. Managing hazards and risks

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[1] ISO 45001, *Occupational health and safety management systems — Requirements with guidance for use*

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